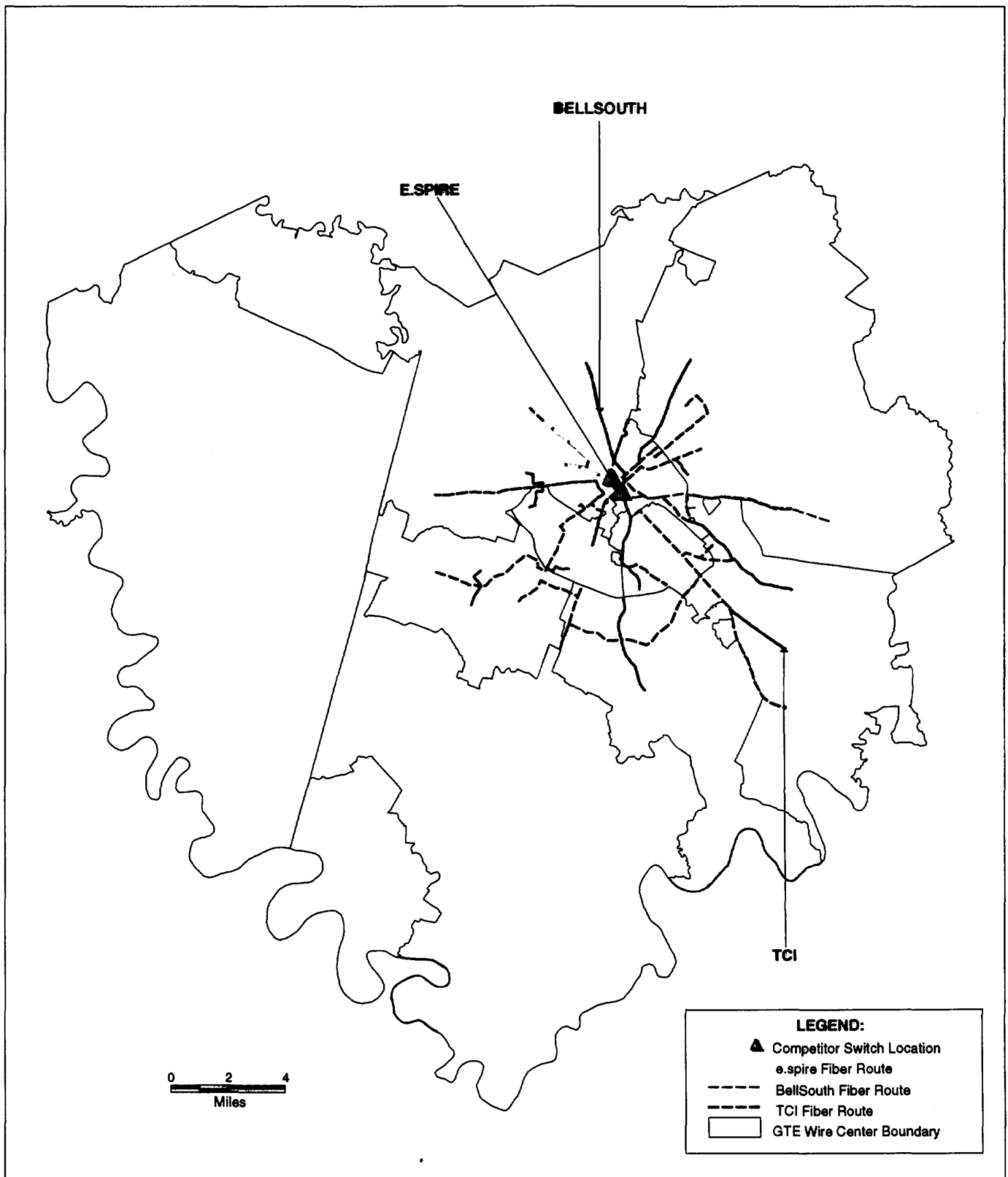


4.2 GTE Franchise Area - Lexington, Kentucky CLEC Fiber Deployment



- AT&T operates one SONET ring in Dallas that also covers Addison, Arlington, Carrollton, Garland, Fort Worth, Irving/Las Colinas, and Richardson; a second SONET ring in Tampa that also covers Clearwater, Sarasota, and St. Petersburg; and a third SONET ring in Los Angeles that also covers Anaheim, Gardena, Long Beach, Oxnard, Santa Monica, San Bernardino, and Sherman Oaks.
- e.spire operates three SONET rings in Dallas that also cover Fort Worth and Irving/Las Colinas, and a SONET ring in Tampa that also covers Westshore and Temple Terrace.
- IGC Communications operates a SONET ring in Dallas.
- Intermedia operates SONET rings in Dallas, Tampa, and Los Angeles.
- KMC Telecom operates a SONET ring in GTE's Fort Wayne territory.
- Level 3 operates SONET rings in both Dallas and Los Angeles.
- MCI WorldCom operates one SONET ring that covers the whole Dallas-Fort Worth metropolitan area; a second in Tampa that also covers Clearwater, Hudson, Plant City, St. Petersburg, and Tarpon Springs; and a third in Los Angeles that also covers Anaheim and Irvine.
- NextLink operates one SONET ring in Dallas and three in Los Angeles.
- Teligent operates extensive broadband fixed wireless networks in Dallas, Los Angeles, and Tampa.
- Time Warner Telecom operates a SONET ring in Dallas that also covers Bradenton, Clearwater, Lakeland, Sarasota, St. Petersburg, and Zephyrhills.
- USXCHANGE operates two SONET rings in GTE's Fort Wayne franchise.
- Winstar operates extensive broadband fixed wireless networks in Dallas, Los Angeles, and Tampa.

There is therefore no question that CLECs can compete effectively in many markets without unbundled access to ILEC transport and loops. The only issue for the Commission is to

determine the *characteristics* of markets where these substitutes are available on terms that allow CLECs to compete.

B. CLECs Are Broadly Self-Supplying Transport or Purchasing Transport From Wholesalers in ILEC Wire Centers Serving 15,000 or More Lines. Transport Therefore Should Not Be Subject To an Unbundling Obligation in These Markets.

To guarantee that its unbundling rules do not undermine competition in markets where CLECs can compete effectively using transport substitutes, the Commission should establish a threshold that allows unbundling only in ILEC wire centers too small to support such alternatives. As a point of departure, both GTE studies and the UNE Fact Report identify an extremely strong correlation between collocation and the presence of transport alternatives. *See* Declaration of Dr. R. Dean Foreman at 2-4 (filed herewith as Appendix C) (“Foreman Declaration”); UNE Fact Report at II-7-9. Once a CLEC collocates, it may deploy its own fiber, purchase transport capacity from wholesale providers, or purchase transport capacity from the ILEC at competitive rates. Foreman Declaration at 3. Furthermore, GTE’s experience has been that CLECs deploy such alternatives in almost every instance of collocation, as only one CLEC has requested unbundled transport in the 141 GTE wire centers with operational collocation. *Id.* Thus, the existence of CLEC collocation indicates that interoffice transport alternatives are available without the need for unbundled ILEC transport. Beyond the existence of substitutes in present markets with collocation, GTE has conducted a study of its own wire centers that identifies the markets where CLECs *would be able* to compete effectively by relying on collocation and the corresponding availability of transport elements. Such an analysis is an integral part of a proper

geographic market definition for transport, because unbundled access to ILEC transport is no more necessary to CLECs' ability to compete in markets where substitutes could be used than in markets where substitutes are currently in use.

To determine where CLECs could collocate profitably, and thus take advantage of market alternatives to unbundled transport, Dr. Foreman conducted an econometric study to identify the wire center characteristics that motivate a CLEC decision to collocate. Specifically, Dr. Foreman's analysis estimates the impact of access line and interoffice trunk density, wire center size, customer mix, the extent to which an area is urbanized, and ILEC network topology on the incidence of collocation. *Id.* Based on the results of a logistic regression, Dr. Foreman concludes that "collocation is nearly 18 to 20 times more likely to be observed among wire centers of 15,000 or more lines than in any wire center of smaller size." *Id.* at 7. Raising the bar to wire centers with larger numbers of lines fails to establish a proper geographic market for ILEC transport because it would "exclude[] many of GTE's wire centers where collocation has occurred." *Id.* at 8. Indeed, the 15,000 line estimate is conservative because interoffice transport alternatives are available in many smaller markets where collocation may never be observed -- as in Oxford Junction and LaBelle, where GTE's network has been completely bypassed by CLECs. *Id.* GTE's experience -- unique among ILECs given the wide variance in the size of its wire centers -- therefore demonstrates that wire centers of 15,000 lines or more share the characteristics necessary to make transport alternatives available to CLECs on competitive terms.

CLECs operating in these markets can secure interoffice transport from many sources. *First*, as illustrated by the above profiles of facilities-based CLECs operating in GTE's territory,

competitors are deploying their own interoffice fiber transport. Since 1996 alone, the number of CLECs that have deployed fiber networks has grown from 29 to 60, and the number of markets served by this fiber has grown from 130 to 289. UNE Fact Report at II-6. With an expected growth rate of 60 percent between 1996 and 2000, the transport market has become one of the fastest growing segments of the telecommunications industry. NECI Report at 30.

Second, CLECs are purchasing interoffice transport from a range of different wholesale suppliers, including other CLECs wholesaling their excess capacity. GST, for example, is pursuing an aggressive wholesaling campaign and plans to resell its interoffice fiber to “everybody in the Los Angeles market in every shape the customer asks for it.” PNR Report at 42. Touch America, Williams, Qwest, Metromedia, and Electric Lightwave are likewise wholesaling excess network capacity in markets across the country. NECI Report at 28-29. CLECs may also obtain fiber from electric utilities and cable companies, or from any one of numerous clearinghouses, including Arbinet, AT&T Global Clearinghouse, GRIC Communications, IXTC WwwXchange, and Rateexchange RTBX. UNE Fact Report at II-4 n.21. This glut of supply has substantially reduced wholesale transport prices over the last three years. *Id.*

Third, collocating CLECs can purchase transport capacity directly from the ILEC through special access or expanded interconnection agreements -- a substitute for unbundled ILEC transport even under the definition posited by the Commission in the *First Report and Order*. *Id.* at ¶ 285. There is no doubt that CLECs can compete effectively using this substitute, as demonstrated by the fact that only one CLEC operating in GTE’s 141 wire centers with

operational collocation has requested unbundled transport. Foreman Declaration at 3. Requiring ILECs to afford CLECs unbundled access to transport will therefore do nothing but reduce by regulatory fiat the price ILECs can charge for transport. But reducing the price of ILEC-provided transport from a competitive price to a TELRIC price would do nothing, as Professor Kahn explains, but undermine CLEC incentives to develop their own substitutes. Kahn Declaration at 17-18.

Finally, new technologies like fixed wireless links allow CLECs to bypass ILEC networks altogether. Companies like Winstar and Teligent have built local networks using predominantly fixed wireless links in GTE's Dallas, Los Angeles, and Tampa franchises, PNR Report at 83, 93, while traditional CLECs like NextLink, Sprint, AT&T, and MCI WorldCom are using fixed wireless connections to extend their existing fiber networks. UNE Fact Report at II-11-12. Wireless technology offers these CLECs significant savings. By utilizing wireless alternatives to traditional fiber networks, both Winstar and Teligent are able to offer customers prices 30 percent below those offered by wireline competitors. PNR Report at 85.

GTE's experience therefore confirms that CLECs have a demonstrated ability to compete effectively in metropolitan markets, and many smaller suburban and rural markets, relying on substitutes to unbundled ILEC transport. CLECs operating in the eight GTE markets studied by PNR that relied on transport substitutes saw their revenues grow as much as 1,747 percent between 1995 and 1998. NECI Report at 33-34. Because CLECs collocating in ILEC wire centers can economically self-supply transport or purchase it from alternative sources -- and because the greatest incidence of collocation takes place in wire centers exceeding 15,000 lines --

the Commission should not require ILECs to unbundle transport in wire centers exceeding this threshold.

C. CLECs Are Self-Providing, or Purchasing From Wholesalers, Myriad ILEC-Loop Alternatives To Serve Large Business Customers and Multiple Dwelling Units. Section 251(d)(2)'s "Impair" Test Therefore Precludes These Business Loops From Being Unbundled.

In the *Notice of Proposed Rulemaking*, the Commission expressed a "strong expectation that under any reasonable interpretation of the 'necessary' and 'impair' standards of section 251(d)(2), loops will be generally subject to the section 251(c)(3) unbundling obligations." *Second Further NPRM* ¶ 32. While this expectation does accurately reflect the current state of competition in the market for residential and small business loop substitutes,³⁷ it does not accurately reflect the extraordinary level of facilities-based competition for business customers with 20 or more access lines or MDUs.³⁸

Large business customers. CLECs in the eight GTE markets surveyed by PNR are serving large business customers using their own wireline or fixed wireless loops, or loops purchased

³⁷ As discussed in section VII below, the entry by AT&T and others into the market for cable-based local service will quickly change this state of affairs.

³⁸ In addition, the Commission cannot legitimately require ILECs to unbundle loop facilities deployed to provide service to new residential or commercial developments. Developers routinely seek competitive bids from ILECs and CLECs to provide service to such developments, and GTE frequently has lost out to CLECs in such competitions. ILECs have no inherent advantage over CLECs in providing service to new developments, and therefore any loop facilities put in place to serve new developments are not critical to CLECs' ability to compete. Indeed, a contrary conclusion would require the Commission to impose ILEC obligations, including unbundling, on CLECs that are awarded contracts to provide service to these new developments. There is simply no rational basis for distinguishing ILEC and CLEC facilities in this context.

from wholesalers. Indeed, in the three years since the Act was passed, CLECs have attracted approximately 2.5 million facilities-based lines to their new networks in GTE and RBOC service territories. UNE Fact Report at III-16. Because the characteristics of these large business customers -- high revenue potential and call volume concentrated in a single location -- make them attractive candidates for CLECs using loop alternatives wherever they are located, section 251(d)(2)'s "impair" standard precludes large business loops from being subject to an unbundling obligation.

The Commission has repeatedly concluded that large business customers -- defined as customers "with 20 or more access lines" -- occupy a discrete telecommunications market.³⁹ This market definition tracks the activity of CLECs serving business customers using substitutes for ILEC loops. For traditional wireline CLECs, 20 lines is generally the point beyond which a customer can be served by a single DS1 line -- a line that can readily be dropped from typical CLEC SONET-ring networks and can be provisioned at far less expense than 20 separate business lines. NECI Report at 34-35. Likewise, fixed wireless networks are ideally suited to serve customers requiring DS1 capacity or greater. *Id.* at 35.

Numerous CLECs are reaching large business customers by building their own fiber networks connecting directly to customer locations. Within the top 50 MSAs, CLECs have deployed over 30,000 miles of fiber. UNE Fact Report at II-6. Forty-three of the top 50 MSAs

³⁹ *Telecommunications Carriers' Use of CPNI and Other Customer Information*, Second Report and Order and Further Notice of Proposed Rulemaking, 13 FCC Rcd 8061, at ¶ 81 (1998); see also, e.g., *Competition in the Interexchange Market*, Notice of Proposed Rulemaking, 5 FCC Rcd 2627, at ¶ 60 (1990).

are served by CLEC fiber networks, and CLECs have deployed fiber in all but 15 of the MSAs ranked between 51 and 150. *Id.* Businesses tend to cluster in downtown areas and business parks, and CLECs have deployed ubiquitous fiber networks that target these daytime population centers. *Id.* at III-3. In GTE's Los Angeles territory, for example, CLEC fiber passes through 91 percent of the zip codes that make up the top 10 percent of all California zip codes measured in terms of daytime population. *Id.* And if large business customers happen to fall outside of these concentrated areas, CLECs widely advertise their willingness to extend their networks directly to these customers' doors. *Id.* In the GTE markets surveyed by PNR, this task is generally not a difficult one. The fiber networks deployed by CLECs in these GTE markets lay within 1,000 feet of a substantial percentage of addressable business customers:

GTE Market	Addressable Market Within 1,000 Feet of CLEC Fiber
Dallas/Fort Worth Area	97%
Tampa Area	27%
Los Angeles Area	25%
Lexington, KY	55%
Fort Wayne, IN	31%
Myrtle Beach, SC	56%

Often, the new loops deployed by these facilities-based CLECs are superior to loops business customers can secure from the ILEC. ILEC loops frequently include loaded copper pairs that require expensive and time consuming conditioning before they can be used to provide advanced services. NECI Report at 36. The ability of facilities-based CLECs to provide business customers a full range of services -- including digital subscriber line service -- gives these

competitors an advantage over ILECs in many markets. Thus, CLECs that have built their own loop facilities -- including 21st Century Telecom, American MetroComm, AT&T, Electric Lightwave, e.spire, GST, NextLink, Ovation, and Touch America -- are seeing their investments translate into extraordinary revenue growth and rapidly expanding market capitalization. *Id.* at 42, 58-59, Attachment F.

CLECs are also reaching large business customers through microwave and fixed terrestrial wireless connections which, as the Commission has recognized, offer “a replacement for the ‘last mile’ of copper wire.”⁴⁰ These fixed wireless loops are already inexpensive to deploy relative to traditional wireline loops -- which cost roughly \$1,000 per customer -- and these deployment costs are expected to drop as low as \$200 per subscriber. UNE Fact Report at III-10. Moreover, the costs of these wireless loops are not distance sensitive, and almost every business in a license area can be reached as soon as service is activated. *Id.* Roll-out times run as short as 90 days, and fixed wireless loops are scalable and less expensive than wireline loops to maintain. *Id.* These loops also offer greater capacity than a standard copper loop with equivalent or better quality of service and speed. Thus, suppliers of wireless local loop platforms like Nortel and Lucent tout the fact that such systems are “modular” and readily allow CLECs to “add capacity and capabilities when and wherever required” and “custom tailor . . . network design to meet . . . marketplace opportunities.” *Id.* at III-10 n.21 (citation omitted).

⁴⁰ *In re Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Third Report and Order, 13 FCC Rcd 19,746, at F-1 (1998).

Many of the largest CLECs have already obtained wireless facilities (including licenses) to extend their fiber networks. AT&T holds 38 GHz licenses in over 200 geographic areas, including more than 95 of the largest 100 metropolitan markets. *Id.* at III-10. MCI WorldCom has recently invested nearly \$700 million to obtain fixed wireless connections to complement its local fiber networks. *Id.* Sprint has made four recent fixed wireless acquisitions that it plans to use to provide access to its ION network. *Id.* Other major providers of wireless local loop services include Winstar, Teligent, NextLink, and Advanced Radio Telecom. *Id.* Like CLECs deploying their own traditional wireline loops, these competitors are experiencing substantial growth in both revenues and market capitalization. NECI Report at 42, 58-59, Attachment F.

In addition to deploying their own facilities, CLECs can also purchase large business customer loops from a number of wholesale providers. These wholesalers typically serve a broad range of markets. Winstar, for example, offers wholesale service in Atlanta, Baltimore, Boston, Chicago, Dallas, Detroit, Fort Worth, Houston, Los Angeles, Milwaukee, New York, Newark, Oakland, Philadelphia, Phoenix, San Diego, and Washington, DC and is planning to expand its wholesale service into seven new markets. NECI Report at 45. Additional loop wholesalers like Metromedia Fiber Networks and Time Warner serve these and other markets across the country. *Id.*

CLECs looking for alternatives to ILEC loops therefore have a broad range of self-provision and wholesale options available on terms that allow them to compete. Indeed, as stated above, CLECs are currently serving approximately 2.5 million lines with their own facilities in GTE and RBOC territories -- a count that gives CLECs a large business market penetration rate

as high as 25 percent within ILEC wire centers that have 20,000 lines or more and one or more CLECs with collocation. UNE Fact Report at III-14-17. Given that numerous CLECs have demonstrated an ability to compete for large business customers using their own traditional wireline or fixed wireless loops or purchasing loops from wholesale providers, the facts do not support the Commission's tentative conclusion that the Act requires loops to be unbundled for all types of customers. Rather, section 251(d)(2)'s "impair" test -- which only affords CLECs access to an element if there are no competitively viable substitutes available in the marketplace -- precludes large business loops from being subject to an unbundling obligation.

Multiple Dwelling Units. The same conclusion holds true for multiple dwelling units. Many CLECs, including Teligent, 21st Century, OnePoint, Cox Communications, Comcast, and StarPower (the RCN/Peppo venture) have been targeting apartment buildings throughout the country. The reason is simple. "For competitors, MDUs represent an attractive market because they can be served for significantly less cost than single-family residences. In many cases, they also mean capturing a market that has shown a willingness to pay for high-end services."⁴¹ Indeed, CLECs enjoy such substantial efficiencies from serving MDUs that they can dramatically undercut ILEC rates. "Among the advantages MDU specialists tout is the ability to deliver

⁴¹ V. Vittore, "Non-traditional carriers bring MDUs up to speed," <<http://www.internettelephony.com/archive/internet1998/3.16.98ie/vittore.html>> ("Vittore"). See also P. Farhi, "Fears Rise of a 'Digital Divide,'" *Washington Post*, May 25, 1999, at E1, E13 ("[Comcast] has limited itself to apartment buildings, where I can snag multiple customers at relatively lost cost.").

multiple services to a concentrated customer base, with operating efficiencies that allow retail discounts in the 20 percent to 33 percent range.⁴²

Many of these companies use their own facilities – generally fiber or LMDS spectrum – to provide a bundle of services to MDU residents, including local telephony, long distance, high-speed Internet access, and cable. For example, in Chicago, 21st Century “has built a fiber backbone alongside the [Chicago Transit Authority’s] rights of way By brining fiber directly into most of the buildings it wants to serve, the company can offer customers a menu of choices, including several flavors of high-seed data.”⁴³

Moreover, CLECs serving MDUs have been phenomenally successful. In Orange County, California, for example, Cox Communications is “[e]mploying its existing fiber network and Northern Telecom access nodes” and “has captured huge shares of the telephone market in newly built MDUs where it offers service. In the four buildings where it offers a packaged service of video, high-speed data and voice, Cox is serving 95 percent of the residential telephony customers.”⁴⁴ OnePoint, a CLEC operating in numerous cities throughout the country, “currently averages more than \$130 a month revenue from [each of] its 158,000 customers” and expected

⁴² G. Kim, “MDU Sweet MDU,” <<http://www.firstregional.net>> (posted Nov. 15, 1998) (“MDU Sweet MDU”).

⁴³ Vittore, *supra*.

⁴⁴ Vittore, *supra*.

to serve 200,000 customers by November 1998.⁴⁵ RCN, a CLEC operating in the Boston to Washington D.C. corridor, anticipated growing from 268,000 to 885,000 connections in 1998.⁴⁶

Notably, CLEC interest in MDUs extends well beyond the largest apartment buildings. 21st Century serves buildings with fewer than 100 units; indeed, in larger buildings it deploys its own system node right in the building.⁴⁷ More than 25 million housing units are located in buildings with more than 50 units each, and the marketing director of First Regional Telecom, a CLEC that focuses on MDUs, characterizes this market as “highly profitable if done properly.”⁴⁸ Not surprisingly, then, the Yankee Group estimates that, by the year 2000, “more than half of those households [in MDUs] will be able to choose telephone service from a CLEC.”⁴⁹

As these facts make clear, CLECs are able to compete effectively to serve the MDU market without reliance on ILEC loop facilities. No impairment results, therefore, under any reasonable interpretation of section 251(d)(2), by excluding ILEC loops used to serve MDUs from section 251(c)(3)’s unbundling requirement.

⁴⁵ “MDU Sweet MDU,” *supra*.

⁴⁶ “MDU Sweet MDU,” *supra*.

⁴⁷ B. Quinton, “21st Century Rocks,” <<http://internettelephony.com>> (cover story, March 1, 1999).

⁴⁸ “MDU Sweet MDU,” *supra*.

⁴⁹ R. King, “CLECs play with building blocks,” <<http://www.zdnet.com/intweek/stories/news/0,4164,378015,00.html>> (posted Dec. 14, 1998).

V. SECTION 251(d)(2)'S "IMPAIR" TEST JUSTIFIES AFFORDING CLECs ACCESS TO ILEC OPERATIONS SUPPORT SYSTEMS ONLY WHEN CLECs ARE RESELLING ILEC SERVICE OR PURCHASING UNBUNDLED ILEC ELEMENTS.

ILEC operations support systems support pre-ordering, ordering, provisioning, repair and maintenance, and billing processes. GTE recognizes that CLECs may need access to the information and capabilities contained in ILEC OSS effectively to provide services that are purchased from the ILEC. For example, a CLEC planning to serve a customer using ILEC resold service will need pre-ordering information to initiate the process and access to the ILEC system to place the order. CLECs using ILEC unbundled network elements may also need access to at least some ILEC OSS, such as pre-ordering information, ordering capabilities, and maintenance and repair. Thus, GTE agrees that CLECs who are reselling ILEC services or buying unbundled network elements should have access to ILEC wholesale OSS in conjunction with the provision of such services or elements.

However, retail use of ILEC OSS by CLECs to provide service to their customers should not be required. When CLECs are providing services that are not derived in any way from ILEC systems, their OSS needs can readily be met by substitutes that are widely available in the marketplace. No fewer than 19 different vendors -- including Lucent, IBM, Nortel, and Ascend -- market database systems and other products to CLECs to perform all OSS functions. NECI Report at 56-58. For example, Lucent offers to CLECs of all sizes an OSS platform that allows competitors to support their service management process from start to finish. *Id.* at 53. Harris provides a Remote Test Unit which allows CLECs to perform automatic testing on unbundled

loops and trunks. *Id.* at 52. Gensym markets to CLECs software that provides comprehensive support for billing and auditing. *Id.* These systems are readily scalable and can therefore be used by both large and small competitors.

The market for CLEC OSS is growing at an extraordinary rate, and new products are constantly under development to further improve the OSS functionality available to CLECs. Telcordia, for example, plans to roll out in the next 12 months products that provide a full suite of OSS services and support both IP-based and circuit-switched networks, and allow CLECs to integrate their OSS seamlessly with ILEC systems. *Id.* at 53. Innovations like these are being driven by the considerable CLEC demand for these services. In the eight GTE markets studied by PNR, no fewer than 10 CLECs -- including AT&T, Frontier, MCI WorldCom, and Teligent -- are self-providing their own OSS. PNR Report at 23. This demand is in turn driving up the revenues earned by manufacturers supplying CLEC OSS -- revenues that have grown to over \$20.7 billion annually since the Act was passed. NECI Report at 56. Given the success of CLECs that self-supply their own OSS, and the success and continuing innovation of firms that supply CLEC OSS, section 251(d)(2) precludes CLECs from securing unbundled access to ILEC OSS except in conjunction with the resale of ILEC services or the purchase or another unbundled ILEC element.

VI. MANDATING ACCESS TO ADDITIONAL UNBUNDLED NETWORK ELEMENTS WOULD VIOLATE THE ACT.

The Commission has asked whether it should require ILECs to afford CLECs access to certain unbundled network elements beyond those previously specified in Rule 319. *Second*

Further NPRM ¶¶ 30-32. As demonstrated in detail below, there is no legal basis for mandating unbundled access to any of the facilities cited by the Commission. In some cases, such as inside wire and dark fiber, the facilities proposed by the Commission do not meet the definition of a “network element.” In other instances -- such as requiring ILECs to make conditioned loops available to CLECs or to combine elements they do not already combine -- the Commission’s proposals are inconsistent with the plain meaning of the Act as interpreted by the Eighth Circuit. And, in any event, none of the facilities about which the Commission has requested comment satisfies section 251(d)(2)’s “impair” standard. Rather, all of these facilities are readily available through self-supply or from sources other than the ILEC, and competitors can and do use those alternatives to enter the market quickly and effectively.

A. ILEC Network Elements Used To Provide Advanced Services Do Not Satisfy Section 251(d)(2)’s “Impair” Standard.

Although the Commission has already received comments on whether elements used to provide advanced services should be unbundled, the *Notice of Proposed Rulemaking* seeks additional comment in light of the Supreme Court’s decision in *Iowa Utilities Board*. *Second Further NPRM* ¶ 35. Due to the wide availability of advanced services equipment and CLEC and cable company leadership in the deployment of advanced services, ILECs cannot be required to unbundle elements that support advanced services, including digital subscriber line access multiplexers (“DSLAMs”) and packet switches. Without a doubt, CLECs will not be “impaired” in their ability to provide advanced services without access to these elements.

1. ILECs Are Not Incumbents in the Advanced Services Market.

Unlike basic telephone services, advanced services have always been provided in a competitive and dynamic market. Although these services may be delivered over existing transmission channels, such as telephone loops and cable television fiber, the equipment used to increase the capacity of those facilities is new and used solely to provide advanced services. In addition, these services are being introduced by CLECs, cable companies, and ILECs simultaneously. Thus, as the Commission itself has noted, there is no incumbent dominating the market.⁵⁰

Cable company and CLEC deployment of advanced services already dwarfs the availability of these services from ILECs. As demonstrated by the UNE Fact Report, CLEC xDSL and cable modem service are available in many more cities than ILEC xDSL service. UNE Fact Report at VI-3, Maps 1 & 2. Moreover, according to the National Cable Telephone Association, “[c]able’s superior bandwidth enables significantly faster transmission speed than traditional telephone lines (50 to 100 times faster than telephone-based modem technologies), and the cable connection does not interfere with normal telephone activity or usage,”⁵¹ giving such services an advantage over ILEC advanced services. As a result of this advantage -- combined with the fact that cable-based broadband services are typically less expensive than ILEC xDSL

⁵⁰ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Report, CC Docket No. 98-146, at ¶ 48 (Feb. 2, 1999) (“Advanced Services Report”).

⁵¹ *High Speed Internet Access*, Cable Television Industry Year-End Review at 1 <http://www.ncta.com/yearend98_3.html> (visited May 11, 1999.).

offerings -- cable operators "have captured an early lead in the race to offer consumers high-speed access to the Internet."⁵² In 1998, cable companies provided cable Internet services to over 100 U.S. markets, passing 19.5 million homes. This number is expected to grow to more than 67 million homes by the year 2005.⁵³ Cable companies expect to have one million cable modem subscribers in 1999, compared with only 300,000 xDSL subscribers for ILECs.⁵⁴

Similarly, CLECs are also investing significant resources in an effort to dominate the advanced services market. According to Terry Barnich of New Paradigm Resources Group, "[b]y leveraging their infrastructure investments to deliver bandwidth, CLECs have positioned themselves to rule the data market. By 2001, CLEC data services will be valued at \$44 billion or more -- twice the size of competitive switched voice and representing more than half of the total estimated \$83 billion CLEC marketplace."⁵⁵ The Association for Local Telecommunications Services, a CLEC trade association, claims that CLECs have already surpassed ILECs in providing advanced services over ILEC loops and that CLECs are "driving the deployment of cutting-edge technology."⁵⁶ Numerous carriers are actively deploying

⁵² Steve Rosenbush, *US West to slash price of speedy Net service*, USA Today, May 5, 1999, at 1B.

⁵³ *High Speed Internet Access*, Cable Television Industry Year-End Review, at 1.

⁵⁴ Rosenbush, *US West to slash price of speedy Net service*, at 1B.

⁵⁵ Press Release, *1999 Annual CLEC Report Sees Continuing Explosive Data Growth in Competitive Local Telecom Industry* (May 11, 1999) <<http://www.alts.com/99release.html>> .

⁵⁶ Press Release, *ALTS' Fall Education Seminar Proves Success of Telecom Act in Stimulating Broadband Data and Competitive Providers* (Sept. 18, 1998) <<http://www.alts.com/99release.html>> .

networks throughout the country. For example, Covad is already providing service in 10 MSAs and expects to expand to 51 MSAs nationwide.⁵⁷ Similarly, NorthPoint is operating in 17 markets and will add an additional 28 markets by the end of this year.⁵⁸ Other companies, such as Concentric Network Corp., Network Access Solutions, Rhythms Net Connections, and Intermedia are also expanding their networks and offering services throughout the United States. With CLEC and cable company deployment of advanced services ahead of that of ILECs, there is no basis for considering ILECs as incumbents in this market or assuming that ILECs have any advantage in the provision of these services.

In GTE's operating territory, for example, AT&T and MGC Communications (among many other CLECs) have the capability to offer advanced services. AT&T has two digital class-five switches and SONET rings serving the entire Dallas/Fort Worth metroplex area. PNR Report at 29. This backbone runs at speeds of up to OC48. Furthermore, in GTE's Los Angeles and Tampa markets, AT&T also has deployed a similar architecture utilizing SONET rings and digital switches. *Id.* More importantly, AT&T's planned acquisition of MediaOne will provide it with expanded access to GTE's Los Angeles market where the combined entity can leverage its cable facility assets to provide an integrated cable, telephony, and Internet access offering. *Id.* at 28.

⁵⁷ Press Release, *Covad Brings Its Nationwide High-Speed Internet Access Network to San Diego; Covad Makes the Internet Faster and Easier With Speedy, Always On DSL Connections* (May 5, 1999) <http://www.covad.com/about/press_releases/press_050599.html>.

⁵⁸ Press Release, *NorthPoint Communications Begins Trading on NASDAQ* (April 15, 1999) <http://www.northpoint.net/press/press_990505.html>.

MGC Communications is also well positioned to offer advanced services in GTE's Los Angeles market where it already has deployed two Nortel DMS 10S digital switches and has requested over 50 collocation arrangements. In April 1999, MGC announced that it plans to utilize the proceeds from a placement of \$47.5 million in convertible stock to roll out digital subscriber line high-speed services. *Id.* at 69. Numerous other CLECs -- including Allegiance Telecom, Cox Communications, e.spire, Hyperion, and Teligent -- are likewise deploying the facilities required to provide advanced services in markets throughout GTE's service territories. *Id.* at 4, 31, 33, 50, 85.

2. CLECs Are Not "Impaired" Without Access To ILEC Advanced Services Equipment.

With CLEC deployment of advanced services leading that of ILECs and the wide availability of advanced services equipment, there is no basis for concluding that CLECs are "impaired" in their ability to offer advanced services without access to ILEC equipment. As GTE has explained in its prior pleadings, the only network element that CLECs may require access to in order to provide advanced services is loops,⁵⁹ and this access will be necessary only where CLECs need access to ILEC loops generally.⁶⁰

CLECs will not be at all impaired without access to ILEC advanced services equipment, such as DSLAMs and packet switches. This equipment is widely available in a competitive market at low cost. Alcatel, Cisco, Fujitsu, and Lucent all provide DSLAMs to both ILECs and

⁵⁹ Comments of GTE, CC Docket No. 98-147 at 103 (filed Sept. 25, 1998).

⁶⁰ As explained below, ILECs should be required to provide conditioned loops only in those areas where the ILEC provides conditioned loops for its own use.

CLECs and have sold more equipment to CLECs than to ILECs. *Advanced Services Report* ¶¶ 53, 56, 58. In fact, the Commission's recent *Advanced Services Report* confirmed that CLECs have deployed more advanced service equipment than ILECs over ILEC loops than ILECs have themselves. *Id.* In GTE's service areas, for example, Covad and NorthPoint have requested collocation in over one hundred GTE central offices to install advanced services equipment, such as DSLAMs. DSLAM hardware is highly scalable, with mounting cabinets available to accommodate as few as eight subscribers in a central office. This hardware costs approximately \$1,000 per DSL subscriber for small units (eight subscribers) and the price drops appreciably when larger units are deployed. As evidenced by the number of CLECs providing advanced services, equipment used to provide these services is both scalable and cost-effective.

CLECs are also deploying packet switches in significant numbers. UNE Fact Report at I-33. As explained above, CLECs have largely bypassed ILEC circuit switches in favor of installing their own packet switches throughout the United States. Packet switches are even easier for CLECs to deploy because they are more cost-efficient. *Id.* at I-34. Recent switching advances have continued to reduce start-up costs. For example, the Lucent Technologies PathStar Business Service Exchange, which provides both voice and data over IP or ATM packet networks, will be available starting in July 1999, with entry level configurations costing only \$100,000. NECI Report at 21. Industry analysts expect that packet switching costs will continue to drop. *Id.* Because of the cost-effective nature of packet switching, CLECs are aggressively deploying these types of networks. For example, AT&T has stated that it will have local ATM connectivity in 41 cities nationwide by the end of 1999. UNE Fact Report at I-33 n.98. Further,

GST Telecommunications, a CLEC that operates primarily on the West Coast in GTE territory, has 24 frame relay switches in operation and, as of December 31, 1998, had 22 ATM switches deployed throughout its network.⁶¹ Thus, as with circuit switching, CLECs are not “impaired” without access to ILEC packet switches.

With access to ILEC loops, where necessary, the wide availability of advanced services equipment, and the ability to collocate, CLECs are easily able to offer advanced services and have done so more aggressively than ILECs. The Commission’s recent collocation rules, though unnecessarily intrusive, will make it even easier for CLECs to collocate advanced services equipment. In addition, recent developments, such as carrier “hotels” run by independent companies facilitate collocation by allowing numerous carriers of all sizes to collocate in one building. NECI Report at 30-31. The fact that CLECs are leading ILECs in the advanced services market is proof in itself that access to ILEC advanced services equipment is unnecessary for CLECs to compete effectively in this market.

In the context of a new market, such as advanced services, a sharing requirement will have an even greater dampening effect on competition than in an established market. When a network sharing requirement was suggested for AT&T and TCI in their recent merger, AT&T Chairman C. Michael Armstrong explained that “[n]o company will invest billions of dollars to become a facilities-based broadband services provider if competitors who have not invested a penny of capital nor taken an ounce of risk can come along and get a free ride on the investments and risks

⁶¹ GST Telecommunications, SEC Form 10-K, at 4 (year ending Dec. 31, 1998).

of others.”⁶² Advanced services are a new market for ILECs -- just like AT&T, they will not be willing to make the necessary investments to provide these services if they have to share the benefits with any competitor who asks. Under these circumstances, an unbundling rule will result in less innovation and will deprive consumers of valuable new services.

B. The Commission Cannot Mandate Access To Dark Fiber Because It Does Not Meet the Definition of a Network Element and CLECs Are Not “Impaired” Without Access To It.

In the *Notice of Proposed Rulemaking*, the Commission asks if technological advances support modifying the definition of loops or transport to include dark fiber. *Second Further NPRM* ¶ 34. Because dark fiber is not a network element and because ILECs have no inherent advantage in installing fiber even if it were, unbundling cannot be mandated.

1. The Definition of “Network Element” Excludes Facilities Not Used To Provide Service.

The Commission may not require ILECs to provide dark fiber on an unbundled basis because the Act’s plain language excludes dark fiber from the definition of “network element.” Section 3(29) of the Act defines a “network element” as a “facility or equipment *used in* the provision of a telecommunications service (emphasis added).” The very nature of dark fiber, however -- the reason it is “dark” -- is that it is not used in providing service. Rather, dark fiber consists of strands of glass in the ground that are unattached to the requisite electronics and carry no signals. Technological advances have not changed this basic fact.

⁶² *FCC is Told TCI Should Unbundle Network in Merger with AT&T*, Warren’s Cable Regulation Monitor (Nov. 23, 1998).

Notably, several sophisticated state commissions have endorsed this analysis in concluding that dark fiber is not a network element. For example, a California arbitrator stated that “[d]ark fiber is not a network element within the meaning of Section 3(29) of the Act, since by definition it is not used in the provision of telecommunications service.”⁶³ Similarly, the New York Public Service Commission determined that:

[D]ark fiber is not an element. New York Telephone should not have to lease facilities against its will when it is not in the business of providing facilities (as opposed to services and service networks) to competitors. Such a requirement could interfere unreasonably with New York Telephone’s investment and construction plans. Moreover, it could provide an unreasonable disincentive to competitive carriers to enter into facilities-based competition.⁶⁴

The Florida and Pennsylvania commissions have reached the same conclusion.⁶⁵

⁶³ *Petition of AT&T Communications of California, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Pacific Bell*, Arbitrator’s Report, Application 96-08-040, at 25 (Oct. 31, 1996), *approved agreement based on Arbitrator’s Report*, Decision 96-12-034 (Aug. 20, 1996).

⁶⁴ *Petition of AT&T Communications of New York, Inc. for Arbitration of an Interconnection Agreement with New York Telephone Company; Petition of New York Telephone Company for Arbitration of an Interconnection Agreement with AT&T Communications of New York, Inc.*, Cases 96-C-0723, 96-C-0724, Order No. 96-31, 1996 N.Y. PUC LEXIS 704, at 70 (Nov. 29, 1996).

⁶⁵ *See Petitions by AT&T Communications of the Southern States, Inc., MCI Telecommunications Corporation and MCI Metro Access Transmission Services, Inc., for Arbitration of Certain Terms and Conditions of a Proposed Agreement with GTE Florida Incorporated Concerning Interconnection and Resale Under the Telecommunications Act of 1996*, Docket Nos. 960847-TP, 960980, Order No. PSC-97-0064-FOF-TP, 97 FPSC 1:263, 282 (Jan. 17, 1997) (stating “[u]pon consideration of the evidence, we find that dark fiber shall not be classified as a network element, as defined by the Act, because it is not used in the provision of a telecommunications service”); *Petition of MCI Metro Access Transmission Services, Inc. for Arbitration of Its Interconnection Request to Bell Atlantic-PA, Inc.*, Docket No. A-310236F0002, 116 Pa. PUC LEXIS 169, *33 (Dec. 20, 1996) (agreeing with Bell Atlantic-PA that “dark fiber, which is spare fiber optic cable owned by Bell with no electronics attached to it, is not a network